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10/822,547	04/12/2004	Gordon Molnar	P68.2A-11534-US01	1814

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VIDAS, ARRETT & STEINKRAUS, P.A.
6109 BLUE CIRCLE DRIVE
SUITE 2000
MINNETONKA, MN 55343-9185

EXAMINER

PICO, ERIC E

ART UNIT	PAPER NUMBER
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3654

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/29/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/822,547	Applicant(s) MOLNAR ET AL.	
	Examiner Eric Pico	Art Unit 3654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-14, 16-19 and 42-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-14, 16-19 and 42-44 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/13/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 11-13 and 43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. **Regarding claim 11**, it is indefinite what a reasonable factor of safety encompasses. Furthermore, it is also indefinite what element, be it the track teeth, the lift device, or the spiral drive threads the factor of safety pertains to. The claim is also unclear whether or not this safety factor was determined with a track tooth design load of 50 pounds stated on Page 7, Line 11-13.

4. The term "reasonable" in claim 11 is a relative term, which renders the claim indefinite. The term "reasonable" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Furthermore it can be broadly interpreted that any functional apparatus encompasses a reasonable factor of safety.

5. **Regarding claim 12**, it is indefinite what element, be it the track teeth, the lift device, or the spiral drive threads the factor of safety pertains to. The claim is also

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unclear whether or not this safety factor was determined with a track tooth design load of 50 pounds stated on Page 7, Line 11-13.

6. **Regarding claim 13**, it is indefinite what encompasses a low coefficient of friction.

7. The term "low" in claim 13 is a relative term, which renders the claim indefinite. The term "low" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Furthermore it can be broadly interpreted that any functional apparatus comprising a spiral drive in contact with teeth encompasses a low coefficient friction.

8. **Regarding claim 43**, it is indefinite if "said section" in Claim 43, Line 2 refers to the plurality of sections of the rack or plastic section. Furthermore it is indefinite how the reinforcing element is separated from either end of any section related to the single plastic rack. Claim 43 will be examined as best interpreted.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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10. Claim(s) 1-4, 6-14, 16, and 42-44 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Grass DE Publication No. 3504854 in view of Paterson et al. U.S. Patent No. 5803437.

11. **Regarding claim 1**, Grass discloses a lift drive comprising: a spiral drive element 32, 37 having an axis of rotation; a single rack 33, 38, 43 having a base and a plurality of teeth extending from the base, wherein each tooth has a thrust surface sized and shaped to be engaged by the spiral drive element 32, 37, the base having a reinforcement element, in its broadest reasonable interpretation members 13, 14 act as reinforcing elements, and the rack 33, 38, 43 having a longitudinal axis parallel to the axis of rotation; a motor 27 coupled to the spiral drive element 32, 37 for rotating the spiral drive element 32, 37; movable carriage 15 having wheels 24, 25, the motor 27 being mounted onto the carriage 15, wherein the rack is 33, 38, 43 comprised of a plurality of sections, each of the sections comprising a body having a base and a plurality of teeth extending from the base, each tooth including a thrust surface sized and shaped to have sliding contact with a thread from a worm gear 32, 37, the body further including a reinforcing element, in its broadest reasonable interpretation members 13, 14 act as reinforcing elements, and wherein the reinforcing element provides dimensional stability to the body under load, and wherein upon the spiral drive element 32, 37 rotating, one of the spiral drive element 32, 37 and the rack 33, 38, 43 moves relative to the other along the longitudinal axis in a lift direction or a lower direction

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12. Grass is silent concerning a plastic spiral drive element, a plastic rack, sections comprising a plastic molded body, the reinforcing element for the section is a metal reinforcing element, and wherein the section is molded with a void and the reinforcing element is sized and shaped to fit into the void

13. Paterson et al. teaches a worm gear wheel and reduction gearing member made from plastic (Column 2, Lines 1-9).

14. It would have been obvious to one of ordinary skill in the art at the time of the invention to manufacture the spiral drive element and single rack disclosed by Grass from plastic taught by Paterson et al. to provide a lightweight lift device to reduce the amount of power needed to operate the apparatus as well as provide a cost effective apparatus.

15. Furthermore, it would have also been obvious to one of ordinary skill in the art at the time of the invention was made to manufacture the spiral drive element and teeth from plastic, since it has been held to be within the general skill to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

16. Furthermore, it would have also been obvious to one of ordinary in the art at the time of the invention was made to make the reinforcing element disclosed by Grass a metal reinforcing element, since it has been held to be within the general skill to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

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17. Furthermore, having a void, commonly known as a recess or flush mount, is notoriously old and well known in the art of manufacturing and design to make the reinforcing element flush with the rack. Therefore, it would have also been obvious to one of ordinary in the art at the time of the invention was made to provide the sections disclosed by Grass with a void to make the reinforcing element flush with the rack.

18. **Regarding claim 2**, Grass discloses the spiral drive element 32, 37 moves and said rack 33, 38, 43 is stationary

19. **Regarding claim 3**, Grass discloses the spiral drive element 32, 37 includes between one and twelve generally spiral drive threads, each of the drive threads engaging at least one of the rack teeth.

20. **Regarding claim 4**, Grass discloses at least one of the spiral drive threads engages at least two teeth on the rack 33, 38, 43 at once.

21. **Regarding claim 6**, Grass discloses the carriage 15 includes a plurality of wheels 24, 25 and the rack 33, 38, 43 is fixed to a rail 11, 12 by the base and wherein the rail 11, 12 includes wheel guides to guide the wheels 24, 25 and thereby the carriage along the rail.

22. **Regarding claim 7**, Grass discloses each of the teeth includes a thrust surface sized and shaped to engage at least one of the spiral drive threads of the spiral drive element 32, 37.

23. **Regarding claim 8**, Grass discloses the rack 33, 38, 43 includes teeth that are spaced apart by a distance "a" and the number of teeth passed per revolution of the

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spiral drive element 32, 37 is determined by the number of threads on the spiral drive element 32, 37.

24. It is inherent with the following components the speed of the movement along the longitudinal axis is proportional to the number of spiral drive threads as well as the spacing of "a" the teeth.

25. **Regarding claim 9**, Grass is silent concerning a gearbox to operatively couple the motor to the spiral drive element, whereby the spiral drive element is rotated at a speed suitable for producing an acceptable linear speed for the drive element along the track.

26. Having a gearbox to operatively couple a motor to a spiral drive element is notoriously old and well known in the art of transmitting power to provide the desired output of the motor.

27. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to operatively couple the motor to the spiral drive element disclosed by Grass with a gearbox to rotate the spiral drive element at a speed suitable for producing an acceptable linear speed for the drive element along the track.

28. **Regarding claim 10**, Grass discloses the motor 27 has a predetermined output speed, and the spiral threads of the spiral drive element 32, 37 have a preselected pitch, and the teeth have a predetermined spacing, the speed of rotation of the drive element 32, 37 and the tooth spacing drive the carriage 15 along the rack 33, 38, 43 at a predetermined speed.

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29. **Regarding claim 11**, Grass discloses a linear drive has a predetermined load capacity, and sufficient number of spiral drive threads are provided to permit enough teeth to be simultaneously engaged to support the load capacity together with a reasonable factor of safety.

30. It is inherent the claim is met due to the fact that an unreasonable factor of safety would yield a nonfunctioning apparatus.

31. **Regarding claim 12**, Grass is silent concerning the lifting device having a factor of safety of at least 1.5.

32. It would have been obvious to one of ordinary in the art at the time of the invention was made to create a lifting device with a factor of safety of at least 1.5, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. In re Aller, 105 USPQ 233.

33. Furthermore, the equivalent structure of Grass DE Publication No. 3504854 in view of Paterson et al. U.S. Patent No. 5803437 would be capable of yielding a factor of safety of at least 1.5.

34. **Regarding claim 13**, Grass discloses the spiral drive element 32, 37 and the teeth are selected from materials having a low coefficient of friction.

35. It is inherent the claim is met due to the fact that a high coefficient of friction would yield a nonfunctioning apparatus.

36. **Regarding claim 14**, Grass is silent concerning elements having a coefficient of friction is between 0.03 and 0.18.

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37. It would have been obvious to one of ordinary in the art at the time of the invention was made to have a coefficient of friction between the spiral drive element and the teeth to be between 0.03 and 0.18, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. In re Aller, 105 USPQ 233.

38. Furthermore, the equivalent structure of Grass DE Publication No. 3504854 in view of Paterson et al. U.S. Patent No. 5803437 would be capable of having a coefficient of friction is between 0.03 and 0.18.

39. **Regarding claim 16**, Grass is silent concerning the spiral drive thread being made from oil impregnated plastic.

40. Paterson et al. further teaches a spiral drive thread being made from oil impregnated plastic (Column 2, Lines 1-9).

41. It would have been obvious to one of ordinary skill in the art at the time of the invention to manufacture the spiral drive thread disclosed by Grass from oil impregnated plastic taught by Paterson et al. to provide a self lubricating surface and reduce friction.

42. Furthermore, it would have also been obvious to one of ordinary in the art at the time of the invention was made to manufacture the spiral drive thread from oil impregnated plastic, since it has been held to be within the general skill to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

43. **Regarding claim 42 and 43**, Grass discloses a drive device for lifting loads comprising: movable carriage 15 having wheels 24, 25; a motor 27 carried by the

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carriage 15, the motor 27 having an output shaft; a threaded spiral drive element 32, 37 attached to and driven by an output shaft 29; and a single fixed rack 33, 38, 43 having teeth sized and shaped to be engaged by the threaded spiral drive element 32, 37, the rack 33, 38, 43 being reinforced, wherein the fixed rack 33, 38, 43 comprised of a plurality of sections, each of the sections comprising a body having a base and a plurality of teeth extending from the base, each tooth including a thrust surface sized and shaped to have sliding contact with a thread from a worm gear 32, 37, the body further including a reinforcing element, in its broadest reasonable interpretation members 13, 14 act as reinforcing elements, and wherein the reinforcing element for the section provides dimensional stability to the body under load, and wherein upon the motor being activated the spiral drive element 32, 37 drives the carriage 15 longitudinally along the rack 33, 38, 43.

44. Furthermore, Grass discloses the reinforcing element is separated from either end of the section by another section, whereby the section can be axially preloaded.

45. Grass is silent concerning a gearbox attached to the output shaft to reduce a speed of revolution transmitted by the motor, such gearbox being configured for maximum efficiency, a plastic threaded spiral drive element, a plastic rack, the reinforcing element for the section is a metal reinforcement element, and the section is molded with a void and the reinforcing element is sized and shaped to fit into the void.

46. Paterson et al. teaches a worm gear wheel and reduction gearing member made from plastic (Column 2, Lines 1-9).

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47. Having a gearbox attached to the output shaft to reduce a speed of revolution transmitted by the motor, such gearbox being configured for maximum efficiency is notoriously old and well known in the art of transmitting power to provide the desired output of the motor.

48. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to operatively couple the motor to the spiral drive element disclosed by Grass with a gearbox to rotate the spiral drive element at a speed suitable for producing an acceptable linear speed for the drive element along the track.

49. It would have been obvious to one of ordinary skill in the art at the time of the invention to manufacture the spiral drive element and single rack disclosed by Grass from plastic taught by Paterson et al. to provide a lightweight lift device to reduce the amount of power needed to operate the apparatus as well as provide a cost effective apparatus.

50. Furthermore, it would have also been obvious to one of ordinary skill in the art at the time of the invention was made to manufacture the spiral drive element and teeth from plastic, since it has been held to be within the general skill to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

51. Furthermore, it would have also been obvious to one of ordinary in the art at the time of the invention was made to make the reinforcing element disclosed by Grass a metal reinforcing element, since it has been held to be within the general skill to select a

known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

52. Furthermore, having a void, commonly known as a recess or flush mount, is notoriously old and well known in the art of manufacturing and design to make the reinforcing element flush with the rack. Therefore, it would have also been obvious to one of ordinary in the art at the time of the invention was made to provide the sections disclosed by Grass with a void to make the reinforcing element flush with the rack.

53. **Regarding claim 44**, Grass discloses a drive device for lifting loads comprising: a moveable carriage 15 having wheels 24, 25; a motor 27 carried by the carriage 15, the motor 27 having an output shaft; a threaded spiral drive element 32, 37 attached to and driven by an output shaft 29; and a single fixed rack 33, 38, 43 having teeth sized and shaped to be engaged by the threaded spiral drive element 32, 37, the rack 33, 38, 43 being reinforced, wherein the fixed rack 33, 38, 43 comprised of a plurality of sections, each of the sections comprising a body having a base and a plurality of teeth extending from the base, each tooth including a thrust surface sized and shaped to have sliding contact with a thread from a worm gear 32, 37, the body further including a reinforcing element, in its broadest reasonable interpretation members 13, 14 act as reinforcing elements, and wherein upon the motor 27 being activated the spiral drive element 32, 37 drives the carriage 15 longitudinally along the rack 33, 38, 43.

54. Grass is silent concerning a gearbox attached to the output shaft to reduce a speed of revolution transmitted by the motor, such gearbox being configured for

maximum efficiency, a plastic threaded spiral drive element, a plastic rack, shoulders for retaining the section in a track.

55. Paterson et al. teaches a worm gear wheel and reduction gearing member made from plastic (Column 2, Lines 1-9).

56. Having a gearbox attached to the output shaft to reduce a speed of revolution transmitted by the motor, such gearbox being configured for maximum efficiency is notoriously old and well known in the art of transmitting power to provide the desired output of the motor.

57. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to operatively couple the motor to the spiral drive element disclosed by Grass with a gearbox to rotate the spiral drive element at a speed suitable for producing an acceptable linear speed for the drive element along the track.

58. It would have been obvious to one of ordinary skill in the art at the time of the invention to manufacture the spiral drive element and single rack disclosed by Grass from plastic taught by Paterson et al. to provide a lightweight lift device to reduce the amount of power needed to operate the apparatus as well as provide a cost effective apparatus.

59. Furthermore, it would have also been obvious to one of ordinary skill in the art at the time of the invention was made to manufacture the spiral drive element and teeth from plastic, since it has been held to be within the general skill to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

60. Furthermore, it would have also been obvious to one of ordinary in the art at the time of the invention was made to make the reinforcing element disclosed by Grass a metal reinforcing element, since it has been held to be within the general skill to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

61. Furthermore, having a void, commonly known as a recess or flush mount, is notoriously old and well known in the art of manufacturing and design to make the reinforcing element flush with the rack. Therefore, it would have also been obvious to one of ordinary in the art at the time of the invention was made to provide the sections disclosed by Grass with a void to make the reinforcing element flush with the rack.

62. Furthermore, including shoulders, commonly known as a fastening tab, is notoriously old and well known in the art of connections to facilitate the fastening of the sections to the track. Therefore, it would have also been obvious to one of ordinary in the art at the time of the invention was made to include shoulders to the sections disclosed by Grass to facilitate the fastening of the sections to the track.

63. Claim(s) 17-19 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Grass DE Publication No. 3504854 in view of Paterson et al. U.S. Patent No. 5803437 as applied to claim 16 above, and further in view of Strong et al. U.S. Patent No. 6616567.

64. **Regarding claim 17**, Grass is silent concerning the gear box providing a speed reduction of between about 8 to 1 and 60 to 1.

65. Strong et al. teaches a gear box 10 providing a speed reduction of between about 8 to 1 and 60 to 1.

66. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the gear box taught by Strong et al. to the motor and spiral drive element disclosed by Grass to provide speeds according to the conditions.

67. **Regarding claim 18**, Grass is silent concerning the gear box and spiral drive having a combined efficiency of between 35% to 88%.

68. It would have been obvious to one of ordinary in the art at the time of the invention was made to provide the gear box and spiral drive with a combined efficiency of between 35% to 88%, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. In re Aller, 105 USPQ 233.

69. Furthermore, the equivalent structure of Grass DE Publication No. 3504854 in view of Paterson et al. U.S. Patent No. 5803437 and Strong et al. U.S. Patent No. 6616567 would be capable of having a combined efficiency of between 35% to 88%.

70. **Regarding claim 19**, Grass is silent concerning the worm drive element and the rack have an efficiency of between 70% and 86%.

71. It would have been obvious to one of ordinary in the art at the time of the invention was made to provide the worm drive element and the rack with an efficiency of between 70% and 86%, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. In re Aller, 105 USPQ 233.

72. Furthermore, the equivalent structure of Grass DE Publication No. 3504854 in view of Paterson et al. U.S. Patent No. 5803437 and Strong et al. U.S. Patent No. 6616567 would be capable of providing the worm drive element and the rack with an efficiency of between 70% and 86%.

Response to Arguments

73. Applicant's arguments filed 10/13/2006 have been fully considered but they are not persuasive.

74. In response to applicant's argument, "that one of ordinary skill in the art, knowing that a factor of safety is "a multiplier applied to the calculated maximum load (force, torque bending moment of a combination) to which a component or assembly will be subjected" and given what is presented in the specification, would understand what the factor of safety applies to and how it was determined" the term reasonable still renders the claim indefinite. One of ordinary skill in the art would not understand what a reasonable factor of safety encompasses. One of ordinary skill in the art could only assume that a reasonable factor of safety would yield a functional device due to the fact that a device with an unreasonable factor of safety would not function. Furthermore applicant clearly stated, "a factor of safety is a multiplier applied to the calculated maximum load a component or assembly will be subjected" but neglects to define that component or assembly. The office has clearly stated that "it is also indefinite what element, be it the track teeth, the lift device, or the spiral drive threads the factor of safety pertains to."

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75. In response to applicant's argument, "one of ordinary skill in the art, knowing what a factor of safety is and given what is presented in the specification, including the range presented in claim 12, would understand what the factor of safety applies to and how it was determined" as previously stated applicant clearly stated, "a factor of safety is a multiplier applied to the calculated maximum load a component or assembly will be subjected" but neglects to define that component or assembly. The office has clearly stated that "it is indefinite what element, be it the track teeth, the lift device, or the spiral drive threads the factor of safety pertains to." Furthermore, it is still remains unclear from the claim whether or not the factor of safety was determined with a track tooth design load of 50 pounds stated on Page 7, Line 11-13. It should be brought to the attention of the applicant that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

76. In response to applicant's argument, "claim 13 is not indefinite because the materials are selected that in combination they have a low coefficient of friction." The term "low" in claim 13 is a relative term, which renders the claim indefinite. The term "low" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Pico whose telephone number is 571-272-5589.

The examiner can normally be reached on 6:30AM - 3:00PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Katherine Matecki can be reached on 571-272-6951. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EEP


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